



What's Up in the World of Military Fitness

Armed Forces Recreation Society
PTI

24 October 10



After short stay in America, Michelangelo's David statue has been brought back to Europe ...

What's the Answer?

- Packaged fitness programs
- Supplements

Things forgotten

- Lifestyle activity
- Sleep!

Commercial Off-the-Shelf Programs (COTs)

90—100 Products

- P90X
- CrossFit
- Military Athlete
- Gym Jones



COTS Characteristics

- Removes the guesswork for the end user
- Many consolidate workouts – short duration
- Social network for support
- Minimal equipment requirements
- Incorporate total body (multi-joint) movements
- Highly varied – “muscle confusion”

COTS Characteristics

- Seldom provide adequate “programmed recovery”
- High volume
- High intensity
- Variability never allows for mastery or full adaptation
- Social network becomes the “COACH”- Untrained individuals coach technique, nutrition, recovery strategies
- Intricate exercises are difficult to master without skilled assistance (e.g. olympic lifts)
- Lack guidance on the minimal level of conditioning required to successfully participate
- **Many align with supplement companies**

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Supplement Facts

Serving Size: 1 Packet (6 capsules per packet)

Servings Per Container: 30 (30 packets)

	Amount Per One Packet	% Daily Value
Vitamin A (as acetate and beta carotene)	10,000 IU	200%
Vitamin C (as calcium ascorbate)	500 mg	833%
Vitamin D (as cholecalciferol)	400 IU	100%
Vitamin E (as natural d-alpha tocopheryl succinate)	300 IU	1,000%
Thiamin (as thiamine HCL)	75 mg	5,000%
Riboflavin	17 mg	1000%
Niacin (as niacinamide)	100 mg	500%
Vitamin B6 (as pyridoxal 5' phosphate)	20 mg	1,000%
Folic Acid	800 mcg	200%
Vitamin B12 (as methylcobalamin)	600 mcg	10,000%
Biotin	2 mg	667%
Pantothenic Acid (as calcium pantothenate)	50 mg	500%
Calcium (as carbonate, ascorbate, citrate, pantothenate)	400 mg	40%
Iodine (as potassium iodide)	150 mcg	100%
Magnesium (as magnesium oxide, magnesium chelate)	400 mg	100%
Zinc (as zinc citrate)	20 mg	133%
Selenium (as selenomethionine)	140 mcg	200%
Copper (as copper citrate)	2.5 mg	125%
Manganese (as manganese citrate)	10 mg	500%
Chromium (as chromium polynicotinate)	240 mcg	200%
Molybdenum (as molybdenum aspartate)	75 mcg	100%
Boron (as boron citrate)	2 mg	**
Vanadium (as vanadium citrate)	40 mcg	**
Coenzyme Q10	10 mg	**
Tocotrienols	2 mg	**
N-Acetyl Cysteine	200 mg	**
Alpha Lipoic Acid	25 mg	**
Grape (<i>Vitis vinifera</i>) seed extract	25 mg	**
Green Tea (<i>Camellia sinensis</i>) leaf extract	25 mg	**
Lutein	2 mg	**
Bilberry (<i>Vaccinium</i>) extract (25% anthocyanidins)	10 mg	**
Milk Thistle (80% silymarin)	50 mg	**

CONTINUED ON BOTTOM PANEL

PKG PEAKHEA P90X / SUP PEAKHEA 30

Supplement Facts (Cont.)

Serving Size: 1 Packet (6 capsules per packet)

Servings Per Container: 30 (30 packets)

	Amount Per One Packet	% Daily Value
Soy Isoflavones (standardized to 40%)	10 mg	**
Ginkgo Biloba extract (24/6)	30 mg	**
Vinpocetine	5 mg	**
Beta Glucan (beta-1,3-glucan)	20 mg	**
Curcumin (95% curcuminoids)	100 mg	**
Quercetin	100 mg	**
Hesperidin	100 mg	**
Trace Mineral Complex (72 trace minerals)	100 mg	**
Arabinogalactan	20 mg	**
Enzyme Delivery System	10 mg	**

Multivitamin Supplement

30 Packets + 180 Capsules + 30-Day Supply

Extreme Nutrition Support for Men and Women

P90X®
PEAK HEALTH FORMULA



PREVIOUS: THE IMPORTANCE OF THE "SQUAT".

NEXT: REST DAY THURSDAY.

ANOTHER ONE DOWN 40LB!

CATEGORY: **WODS**

"All your words are true; all your righteous laws are eternal."- Psalm 119:160

RSS SUBSCRIBE

EMAIL SUBSCRIBE



STAY IN THE KNOW



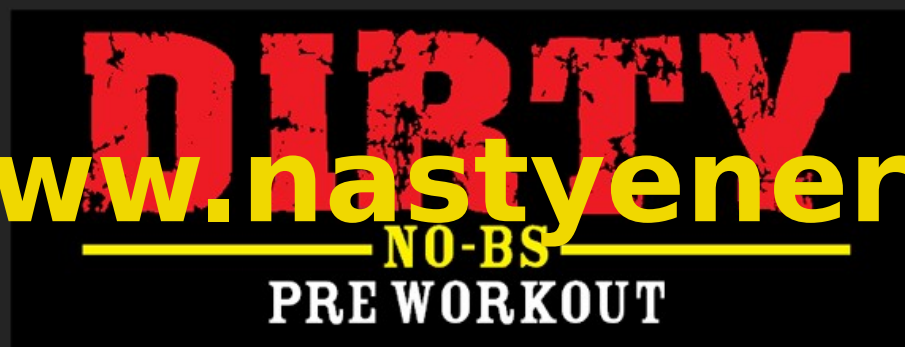
VIEW THE LATEST ISSUE

CAROLINA CROSSFIT GEAR



Jimmy Auld has lost a total of 40lbs in 4 months!!

<http://www.nastyenergy.com>





Notes From the Front Lines

May 7, 2010, 11:47 AM

The Performance-Enhanced Military

By TIM HSIA

COMMENTARY

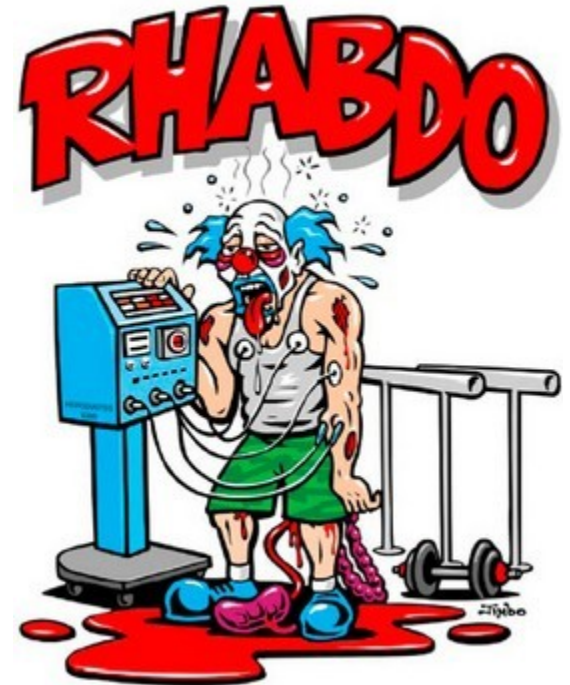
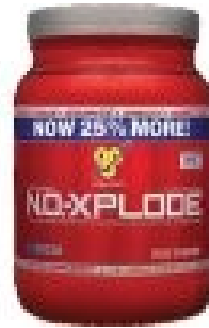
**A Soldier
Writes**

The military has received much scrutiny in recent years for allegedly [overmedicating soldiers](#) who suffer from post-traumatic stress disorder or from other mental illnesses associated with combat.

While the use of steroids by soldiers when deployed is rumor, the [use of supplements](#) to become bigger, stronger and faster is a fact. When I had to conduct a health and welfare inspection, I was shocked by the profusion and variety of pills and powders I found in the rooms of soldiers. A few rooms could have been confused for mini-pharmacies.

Side Effects Observed in Theatre

- Multiple case reports of fainting, palpitations and lightheadedness from NO products
- Warfighters who become dehydrated appear at increased risk of side effects from caffeine and other vasoactive components
- Case reports of liver toxicity, possibly secondary to NO products
- Rhabdo also seen, but no clearly identifiable supplement connection: possibly secondary to heat, dehydration, vasoactive components in combination with extreme workouts



Red Flags

- Product categories: weight loss, performance enhancing, bodybuilding
- Label claims like:
 - Alternative to [approved drug products]
 - Do not take if you have any medical condition, if you are taking any prescription medications, or if you are pregnant
 - May cause positive result in drug test
- Labels primarily in a foreign language
- Directions and warnings resembling FDA approved drug products

Bottom Line

- Approach with Caution
- Don't bite on the supplement and nutrition recommendations without consulting with a professional
- Don't adopt as a unit PT program
- **You cannot replace the value of an educated fitness professional!**



Over 750 Sailors from 2nd & 3rd

• Specialized Series For:

- **113 NOFFS instructors in the field to assist commands with implementation**
- Developed in partnership OPNAV135, BUMED and CMC*

**Developed in partnership with CPPD,
OPNAV135, BUMED and CNIC**

LARGE DECK SERIES

WARM UP & STRENGTH · LEVEL 2

Select 1 Strength Option: FIT KIT EQUIPMENT or FULL EQUIPMENT

Option B: Strength – Full Equipment This strength option takes advantage of FULL EQUIPMENT using dumbbells and body weight as the primary source of resistance. This component designed to strengthen the movement needed to perform on an operational platform. Select a resistance that you feel challenged with and pay close attention to the quality of your movement.

Stage:	A	B	C	D
Reps:	12	10	8	6

	Circuit 1	Circuit 2
● Short	x2	x1
● Medium	x2	x2
● Long	x3	x2

Circuit 1

1

BENCH PRESS – ALTERNATING DUMBBELL

- Keep one arm straight, lower the other dumbbell until your arm just break parallel with the deck, then push it back up
- Keep your nonworking arm straight with feet flat on the deck
- Keep hips & shoulders on the bench during the movement
- Alternate sides each rep

Circuit 2

1

SQUAT TO OVERHEAD PRESS – DUMBBELL

- Squat hips back & down until thighs are parallel with deck
- Return to standing by pushing through your hips
- At top of stance, press dumbbells straight overhead
- Keep weight on arches and do not let knees collapse during the movement

2

ROMANIAN DEADLIFT – 1 LEG DUMBBELL

- Keep straight line from ear to ankle, hinge at waist & elevate your leg behind you
- Return to the standing position by contracting your hamstring & glutes
- Keep back flat, shoulder blades back & down during movement & keep the dumbbells close to your shin
- Complete reps, repeat on opposite side

2

LATERAL PILLAR BRIDGE – W/ ABDUCTION

- Lie on side with forearm on deck, feet stacked together
- Keep elbow under shoulder, push your hip off the deck, straight line from ankle to shoulder
- Lift your top leg like the air as if you were doing a lateral jumping jack
- Complete reps, repeat on opposite side

3

SPLIT SQUAT – REAR FOOT ELEVATED DUMBBELLS

- Place your back foot up onto a box or bench behind you
- Drop hips towards deck by bending your front knee without letting your front knee touch the deck
- Return to starting position by pushing up with your front hip
- Complete reps on one leg, then switch legs & repeat

3

CURL – KNEELING DUMBBELL

- Start in kneeling position, holding dumbbells with arms at your sides
- Keep elbows at your hips, lift dumbbells to shoulders as you rotate your palms to the ceiling
- Keep your stomach & the glute muscles of your rear leg tight throughout the movement
- Switch forward leg half way through the set

4

BENT OVER ROW – 1 ARM 1 LEG DUMBBELL

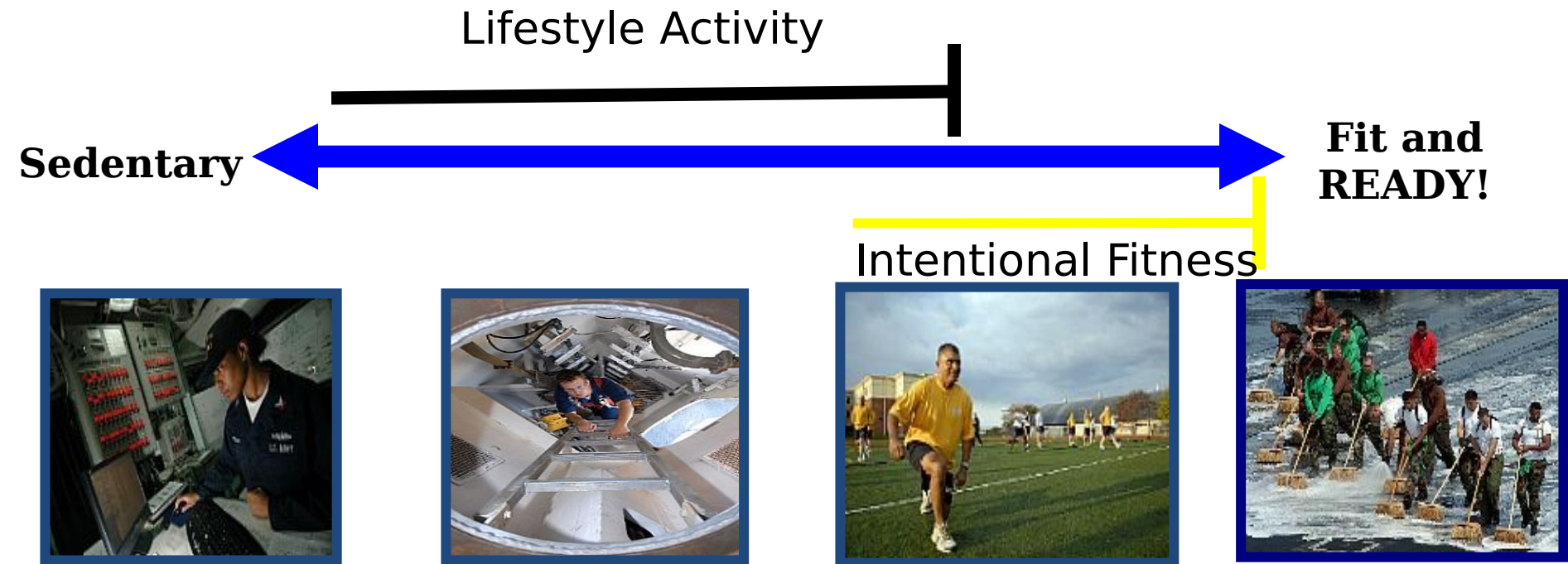
- Keep straight line from ear to ankle, hinge at waist & elevate your leg behind you
- Slide shoulder blade toward, lift weight to body by driving elbow to ceiling
- Keep your back level, stance leg slightly unlocked & shoulders parallel to the deck
- Complete reps, repeat on opposite side

4

CRUNCHES

- Lie faceup with knees bent & hands across your chest
- Lift chest up until shoulder blades are off the deck & rotate your pelvis towards your belly button
- Slowly return to starting position & repeat for prescribed reps

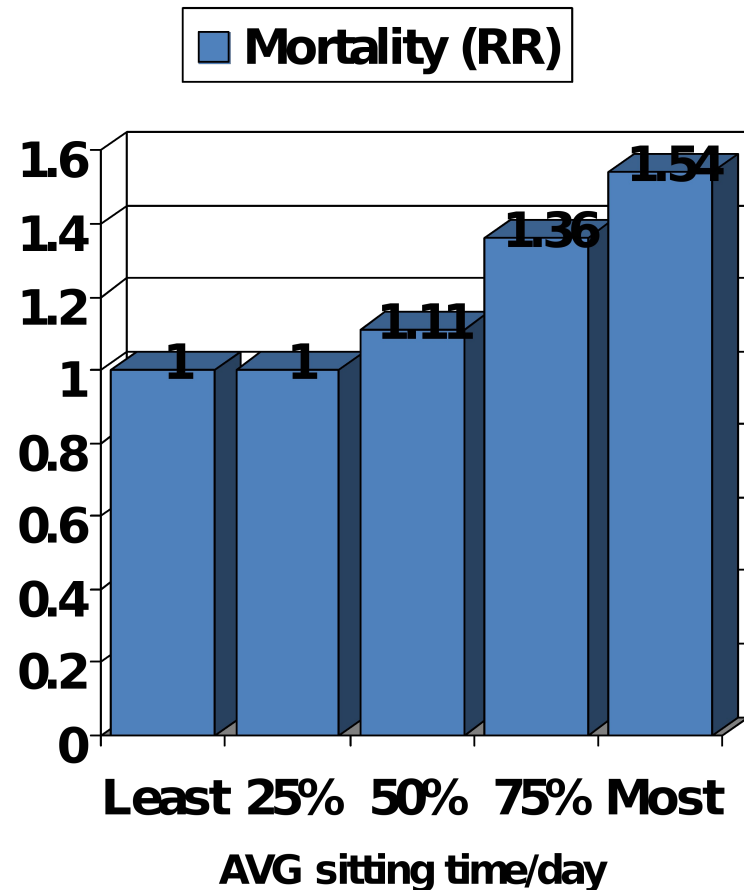
Fitness: More than a Workout!





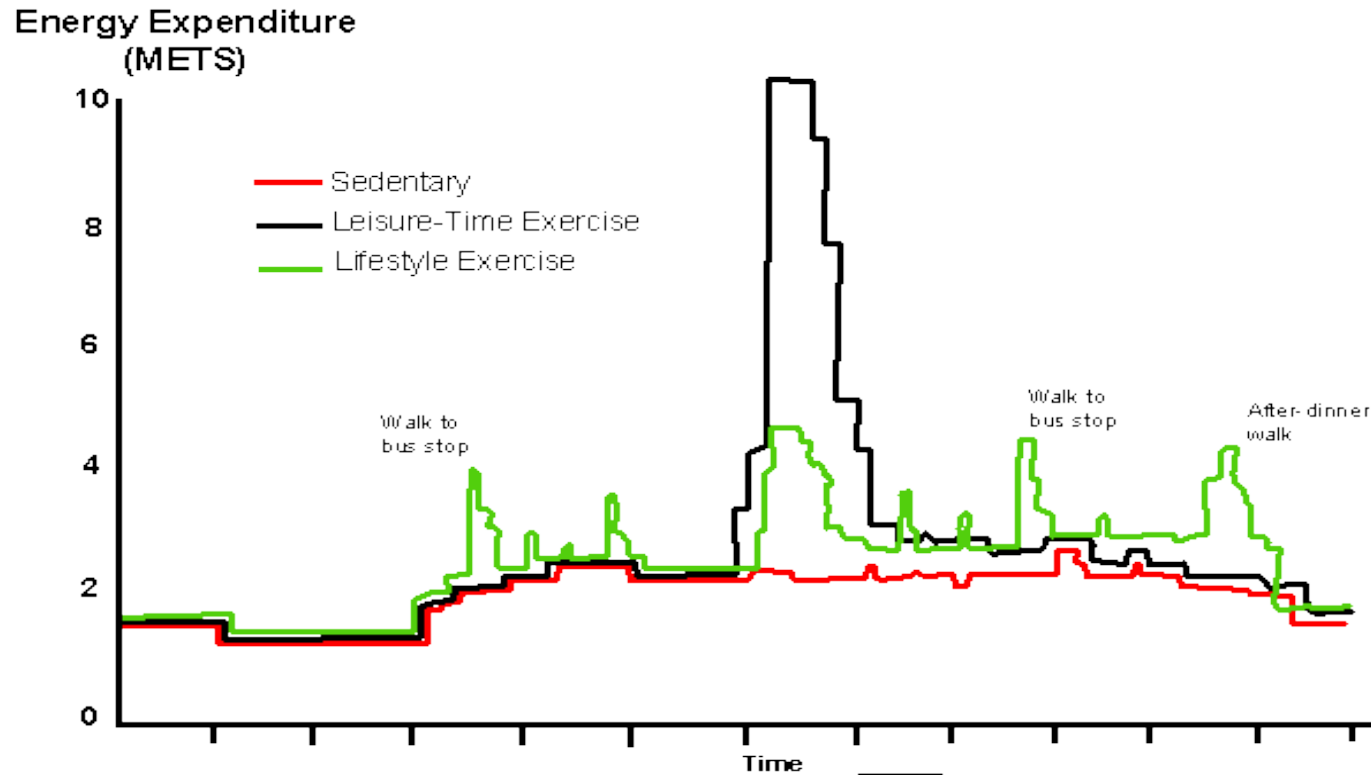
Effects of Sitting

- As sitting time increases the relative risk of death from ANY cause increases.
- Extended sitting results in “metabolic alterations” that cannot be compensated for by an isolated exercise session.
- Study controlled for effects of smoking, pre-existing obesity and other disease processes



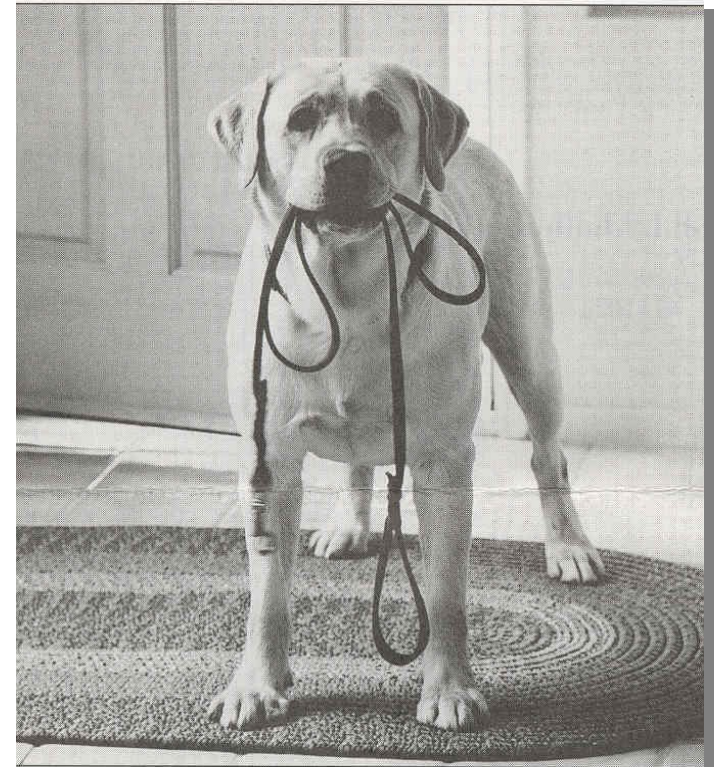
Exercise in the Gym & Physical Activity

Theoretical Patterns of Physical Activity



Blair, et al. (1992), "Physical Activity and Health: A lifestyle Approach"
Medicine, Exercise Nutrition and Health 1:1, 54-56.

Incorporating Lifestyle Activity



Think of him as an
exercise machine
with hair.

The Forgotten Piece



Is Sleep Important?

- **More than 100,000 motor vehicle accidents annually are sleep-related.**
- **Disasters such as Chernobyl, Three Mile Island, and Exxon Valdez were officially attributed to errors in judgement induced by sleepiness or fatigue.**

Effects of Sleep on Diet

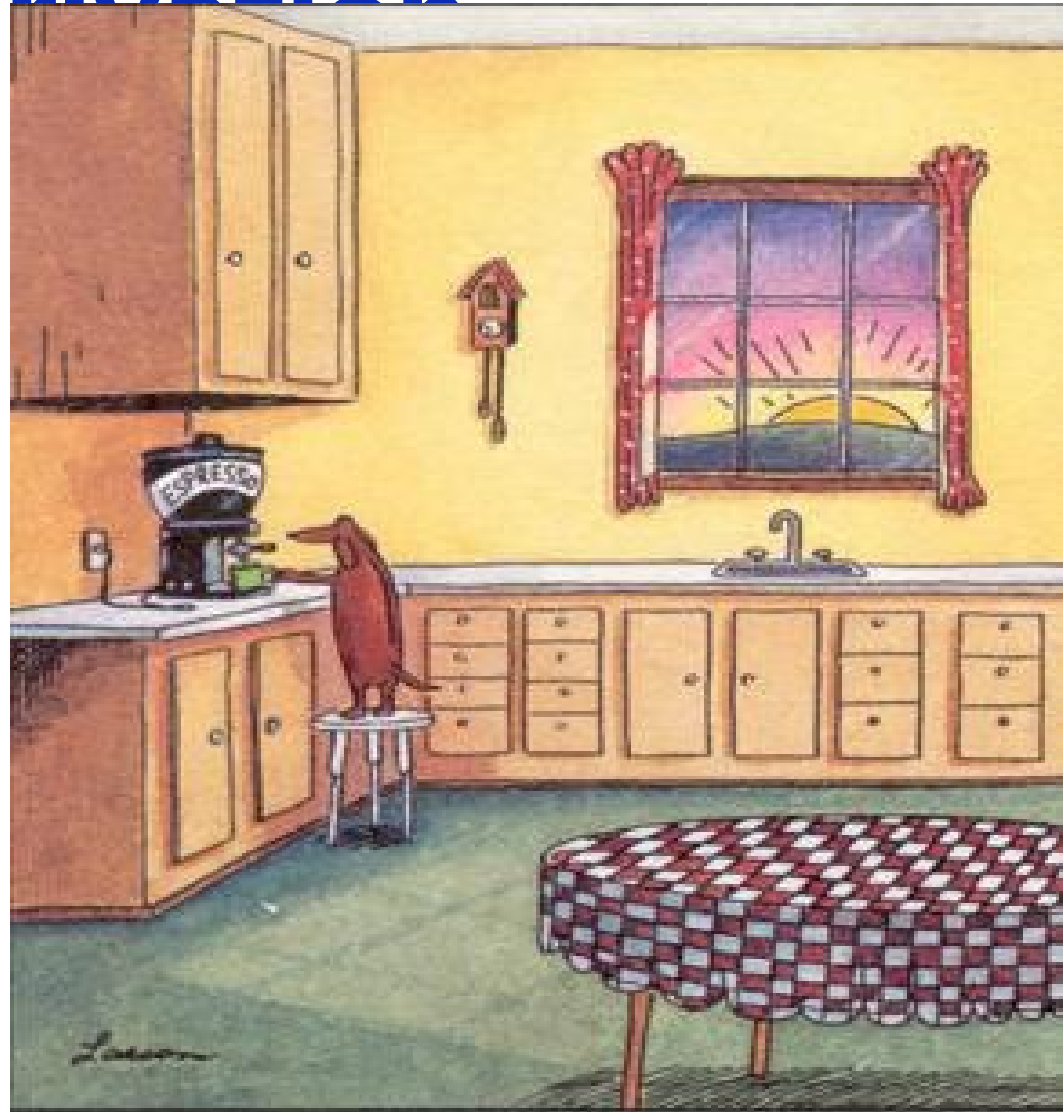
- **In healthy young people, acute sleep deprivation results in change in appetite-regulating hormones.**
 - reduced leptin (suppresses appetite)
 - increased ghrelin (increases appetite)
 - Insulin resistance (pre-diabetic state)
 - Increased appetite
- **Chronic sleep deprivation (short sleep) is associated with**
 - higher body mass index.
 - Increased caloric consumption

Effects of Exercise on Sleep

- Exercise promotes and consolidates sleep.
 - Exercise is one of few ways to increase coveted, deep nREM sleep
 - Increased exercise results in increased sleep duration.
- Exercise outdoors may be more effective in promoting sound sleep.
- Older data suggesting that exercising “too close to bedtime” may inhibit sleep is probably not true.

Markers of Sleep Deprivation

- Regular alarm clock use
- More than 1 hour difference in weekend vs weekday sleep time
- Excess caffeine use



While their owners sleep, nervous little dogs prepare for their day.

CHRONIC Sleep Loss and Performance

- **Increased risk of car crashes in those reporting less than 7 hours of sleep a night (Stutts JC Accid Anal Prev 2003)**
- **Commercial drivers averaging < 7 hours a night had increased likelihood of sleepiness (ESS); those with sleepiness and increased likelihood of crashes (Howard ME, AJRCCM 2004)**

Cardiovascular Effects of CHRONIC Sleep Loss

- **Those who sleep less than 5 hours a night have increased risk of hypertension. (Gangwisch JE, Hypertension 2006).**
- **Frequently sleeping < 5 hours a night is associated with increased risk of heart attack in Japanese men (Liu Y, Occ Environ Med 2002)**

Immunological Effects of ACUTE Sleep Deprivation (Bonnet MH, PPSM4)

- **Increased risk of catching a cold**
- **Reduced ability to respond to hepatitis and flu vaccinations**

Conclusions

- Sleep: As important as diet and exercise, only easier!
- The average person needs about 7 ½ hours of sleep each night (younger, more active people need more).
- The best way to improve your sleep is to have a regular schedule for sleeping, waking and exercising!

SUMMARY

- Challenges have not changed
- COTs
 - Advantages and disadvantages
 - Approach with caution
- Supplements in combination with COTs can be dangerous
- Lifestyle activity is as much a part of the health equation as structured fitness
- Sleep is essential to performance and health

Thanks for Your Attentiveness!

